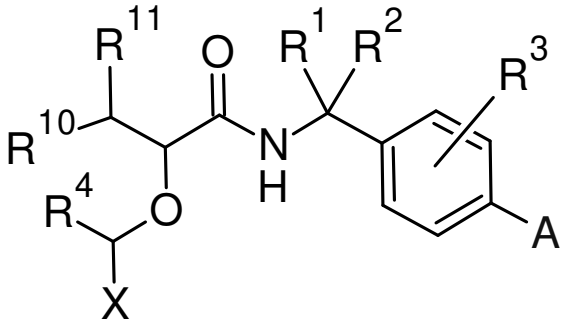
Claims

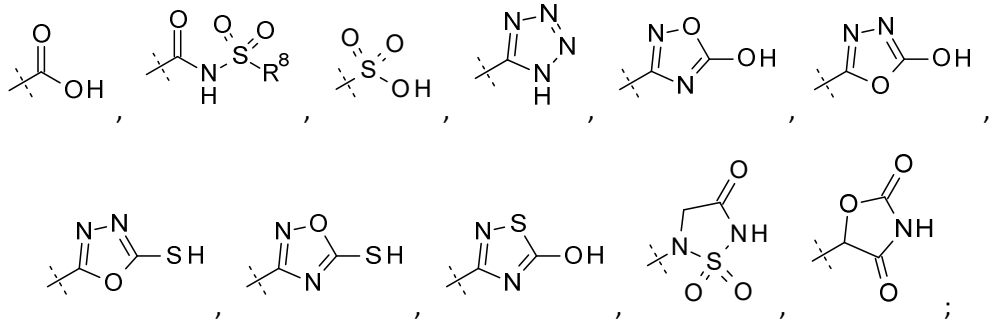
1. A compound of Formula (1):



(1)

or a salt thereof, wherein;

A is selected from the group consisting of:



X is an optionally substituted phenyl ring, an optionally substituted pyridyl ring or an optionally substituted imidazopyridine ring system;

R^1 and R^2 are independently H or a C_{1-3} alkyl group which is optionally substituted with one or more fluorine atoms; or R^1 and R^2 are joined to form a 3-6 membered carbocyclic ring which is optionally substituted with one or more fluorine atoms;

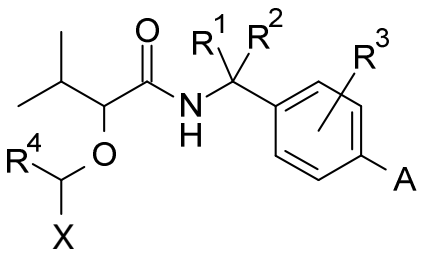
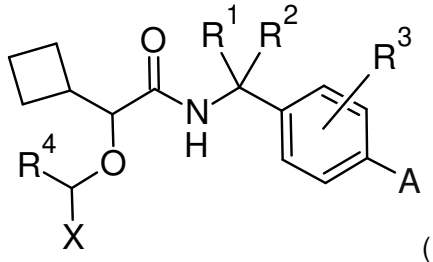
R^3 is H, C_{1-3} alkyl or F;

R^4 is H or C_{1-3} alkyl;

R^8 is C_{1-3} alkyl or a C_{3-6} cycloalkyl ring;

and either R^{10} and R^{11} are both methyl or R^{10} and R^{11} are joined to form a cyclobutyl ring.

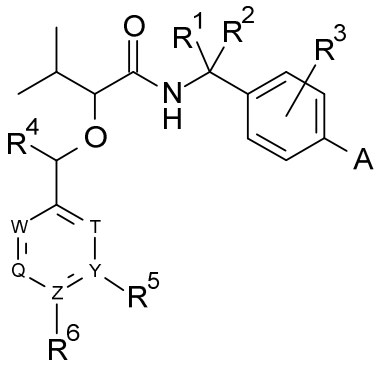
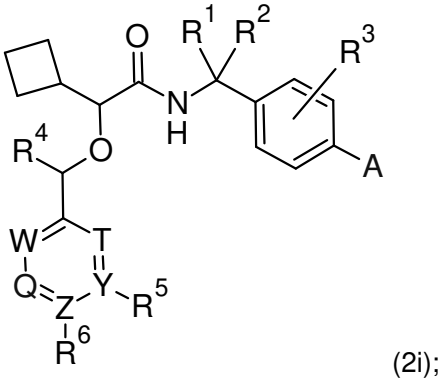
2. The compound according to claim 1, which is a compound of Formula (1a) or (1b):


(1a);

(1b);

or a salt thereof.

3. The compound according to claim 1 or claim 2, wherein X is an optionally substituted phenyl ring or an optionally substituted pyridyl ring.

4. The compound according to claim 1, which is a compound of Formula (2) or (2i):


(2);

(2i);

or a salt thereof, wherein;

Q, W and T are CH or N;

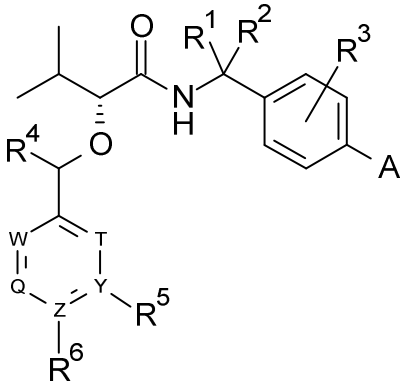
Z and Y are C or N;

where either one or none of Q, W, T, Y and Z is N, R^5 is absent if Y is N and R^6 is absent if Z is N;

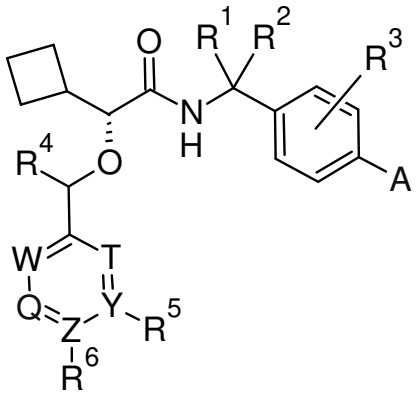
R^5 and R^6 are independently selected from H, halo, CN, OH, SF_5, C_{1-6} alkyl, C_{3-6} cycloalkyl, C_{1-6} alkoxy, OR^7 and SO_2R^7, wherein the alkyl, cycloalkyl and alkoxy groups are optionally substituted with one or more fluorine atoms and any one atom of the alkyl or cycloalkyl group may be optionally replaced by a heteroatom selected from O, S and N; or R^5 and R^6 are joined to form a 5 or 6-membered carbocyclic or heterocyclic ring which is optionally substituted with one or more fluorine atoms;

and R^7 is a C_{1-6} alkyl group which is optionally substituted with one or more fluorine atoms or a C_{3-6} cycloalkyl group which is optionally substituted with one or more fluorine atoms.

5. The compound according to claim 4, which is a compound of Formula (3) or (3i):



(3);



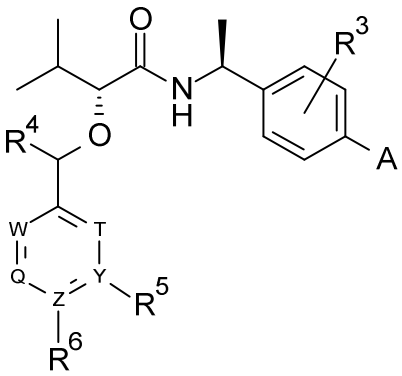
(3i);

or a salt thereof.

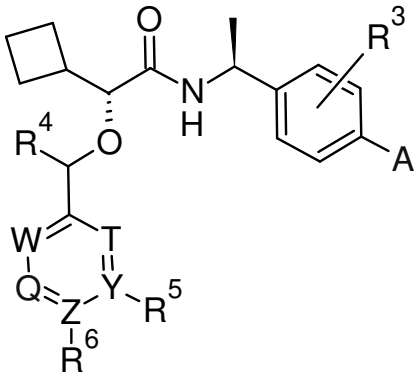
6. The compound according to any one of claims 1 to 5, wherein R^1 and R^2 are both methyl, R^1 and R^2 are both H, R^1 and R^2 are joined to form a cyclopropyl ring or R^1 is methyl and R^2 is H.

7. The compound according to claim 6, wherein R^1 is methyl and R^2 is H.

8. The compound according to claim 4, which is a compound of Formula (4) or (4i):



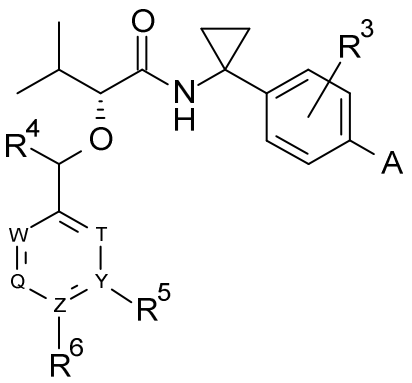
(4);



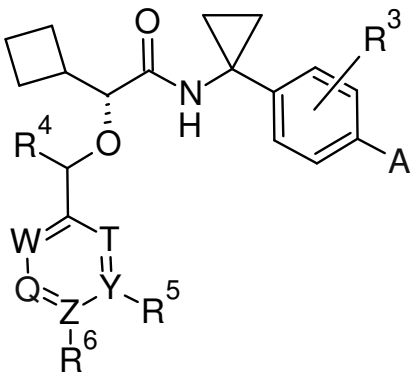
(4i);

or a salt thereof.

9. The compound according to claim 4, which is a compound of Formula (5) or (5i):



(5);

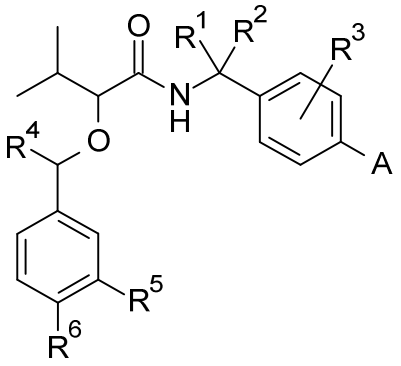


(5i);

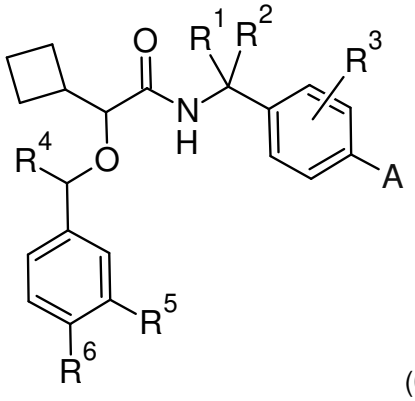
or a salt thereof.

10. The compound according to any one of claims 4 to 9, wherein W, Q and T are CH and Z and Y are C.

11. The compound according to claim 4, which is a compound of Formula (6) or (6i):



(6);



(6i);

or a salt thereof.

12. The compound according to any one of claims 1 to 11, wherein A is CO_2H, $CONHSO_2Me$ or a tetrazole ring.

13. The compound according to claim 12, wherein A is CO_2H.

14. The compound according to any one of claims 1 to 13, wherein R^3 is H or methyl.

15. The compound according to claim 14, wherein R^3 is H.

16. The compound according to any one of claims 1 to 15, wherein R^4 is H or methyl.

17. The compound according to claim 16, wherein R^4 is H.

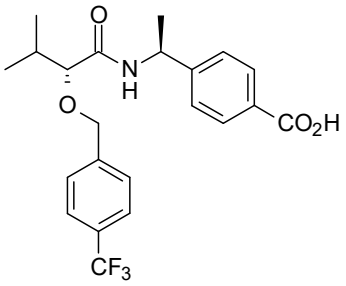
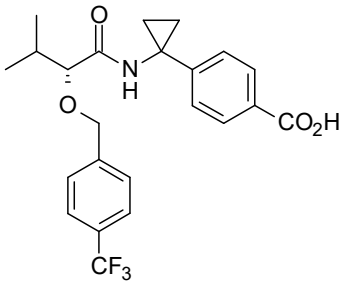
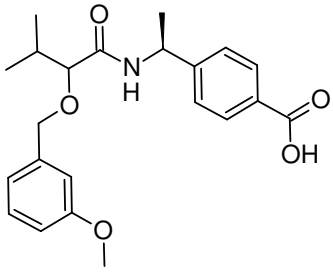
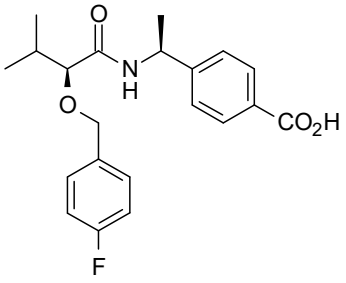
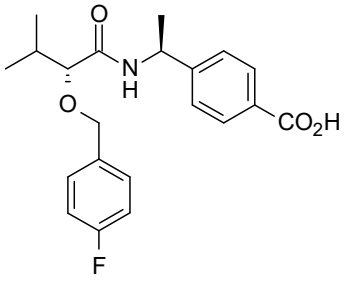
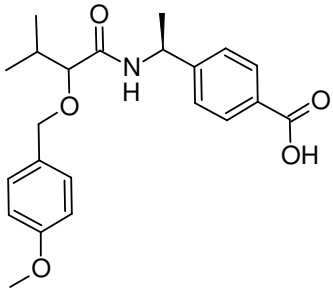
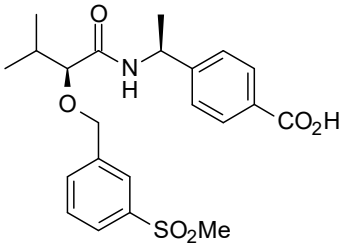
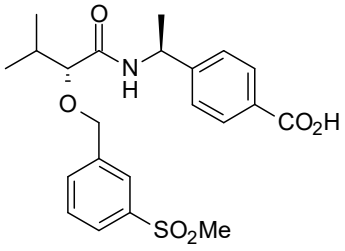
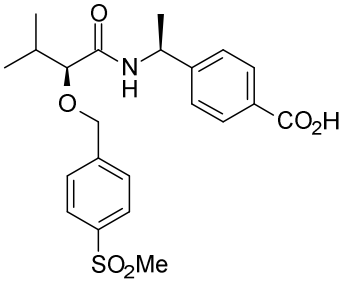
18. The compound according to any one of claims 4 to 17, wherein R^5 and R^6 are independently selected from H, Cl, F, CN, OH, SO_2Me, SO_2Et, SO_2-cyclopropyl, SF_5, CF_3, CF_2H, OMe OCF_3, OCF_2H, CH_2OH, CH_2OMe, cyclopropyl and oxetanyl.

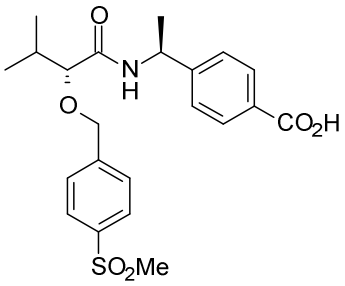
19. The compound according to any one of claims 4 to 18, wherein R^5 is H.

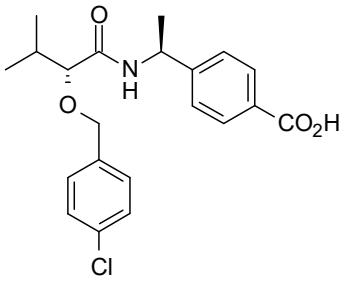
20. The compound according to claim 19, wherein R^6 is CF_3 or F.

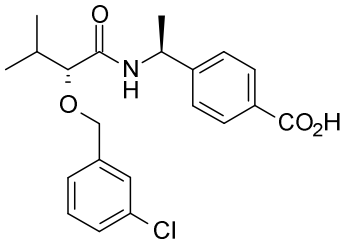
21. The compound according to any one of claims 4 to 17, wherein R^5 and R^6 are joined to form a fused imidazole ring or a fused dioxolane ring which is optionally substituted with one or two fluorine atoms.

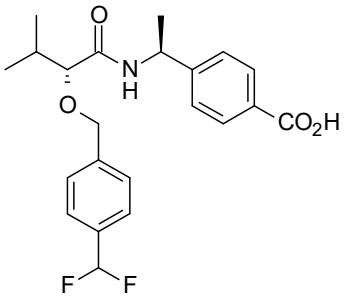
22. The compound according to claim 1 which is selected from the group consisting of:

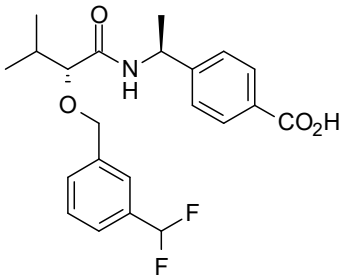










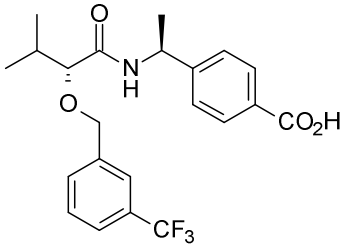


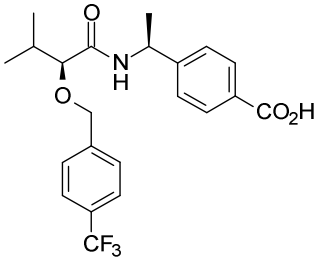


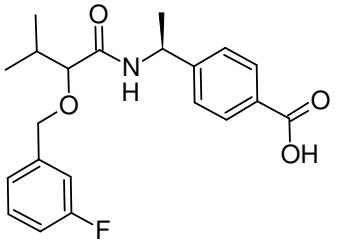


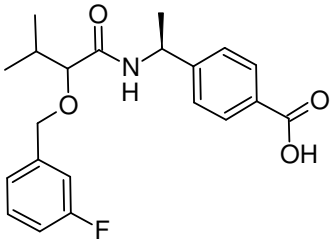


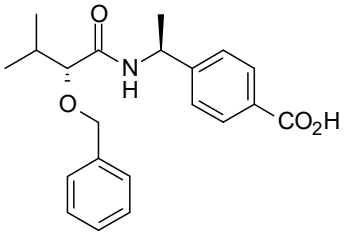


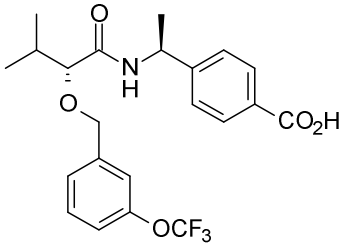


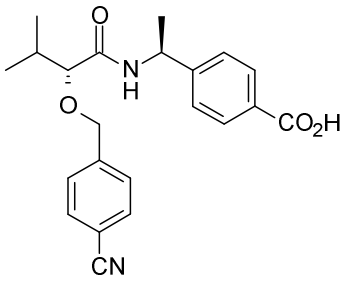


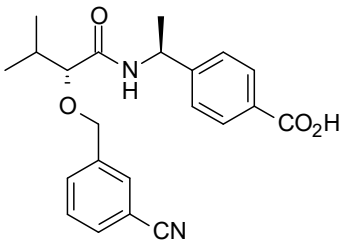


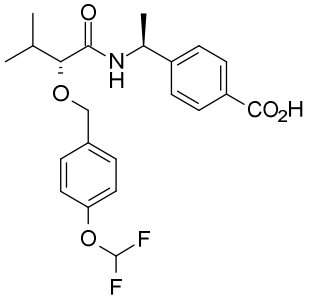


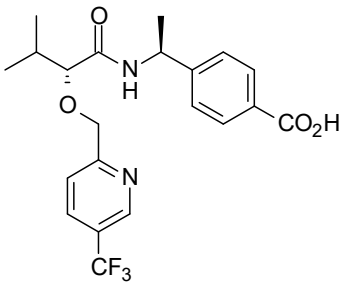


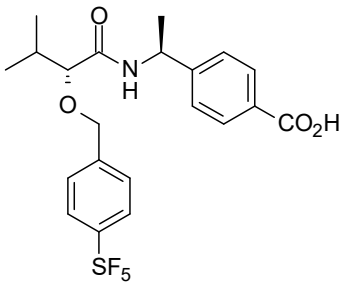


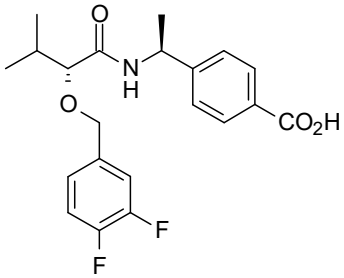


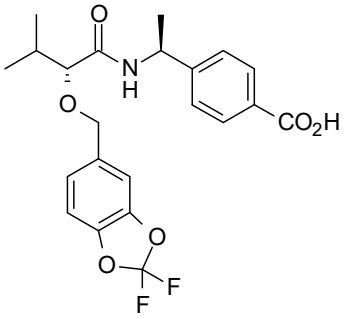


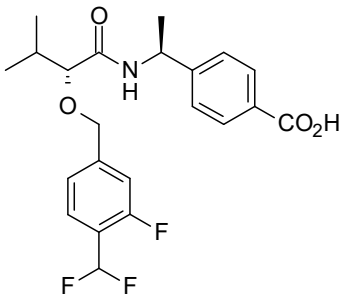


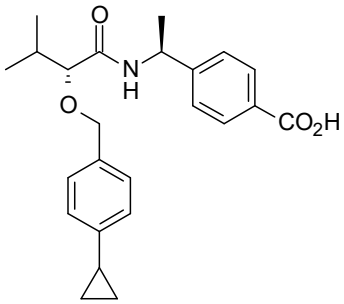


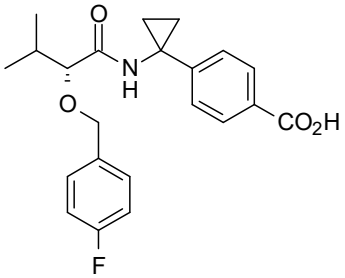


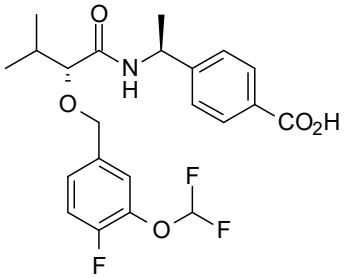


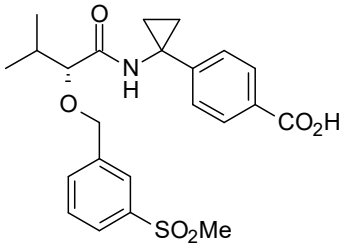


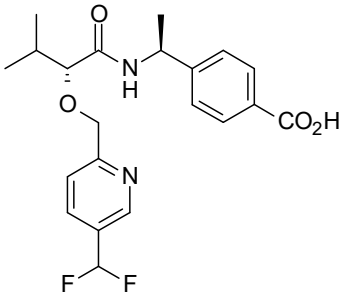


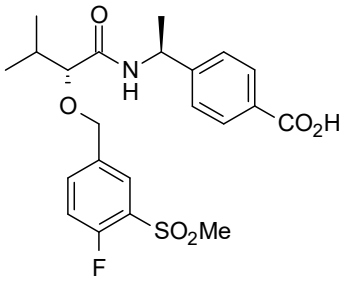


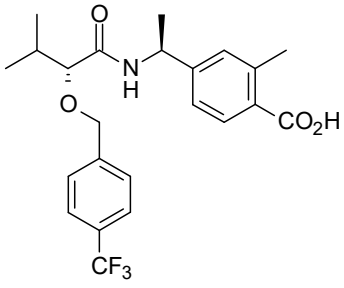


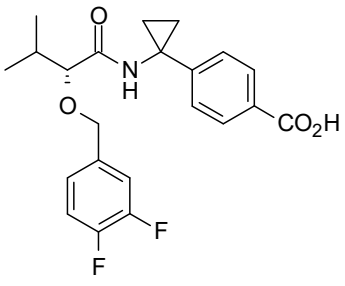


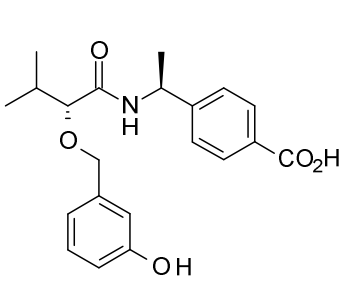


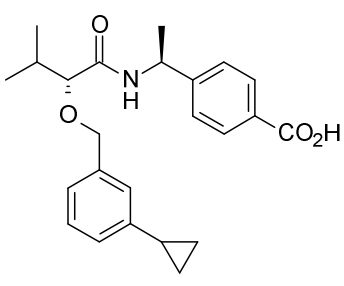


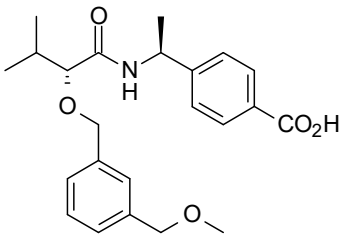


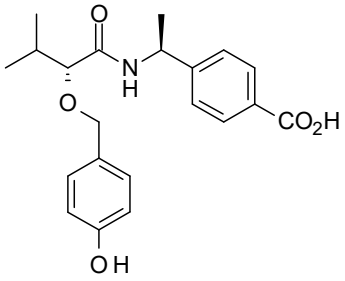


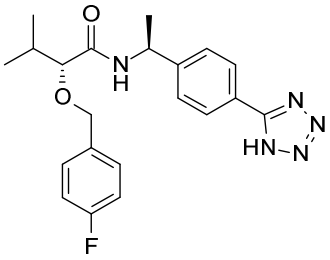


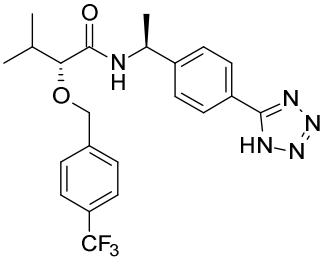


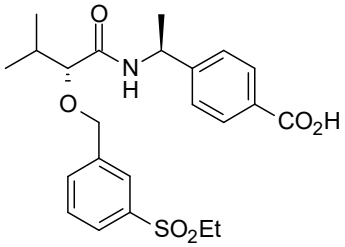


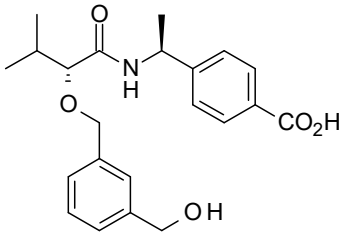


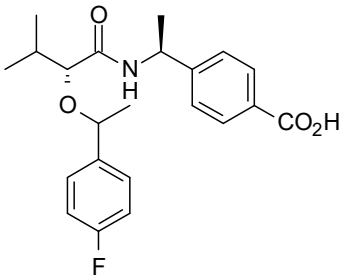


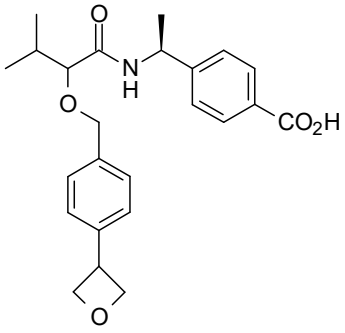


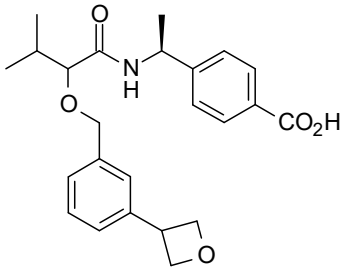


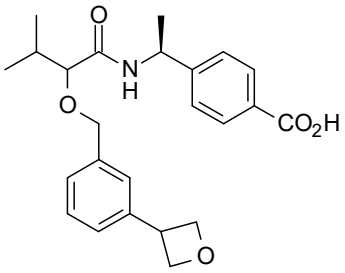


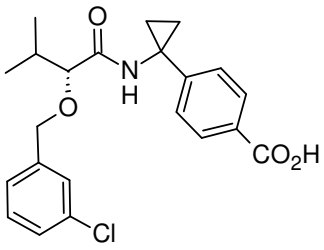


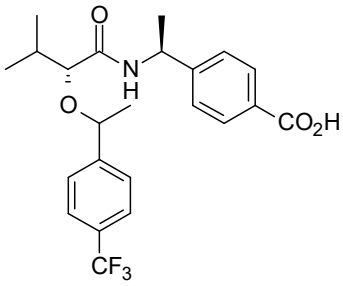


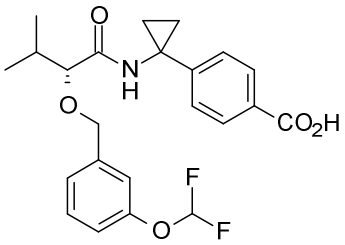


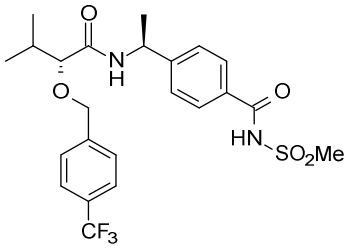


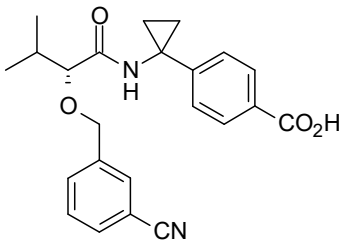


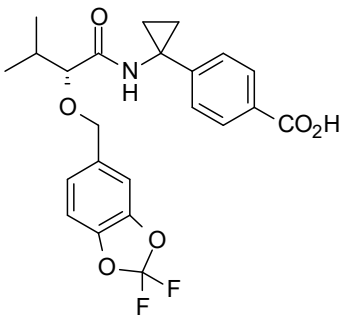


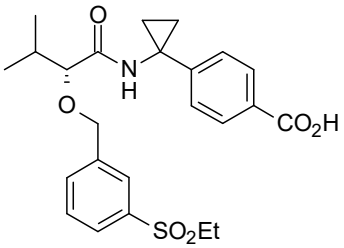


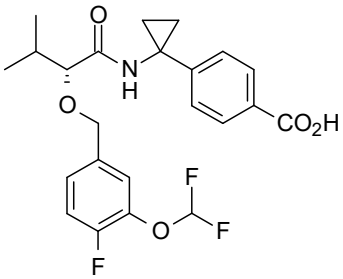


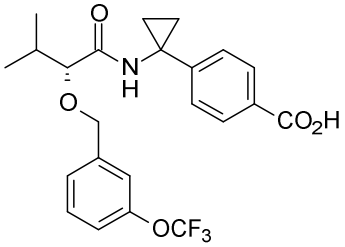


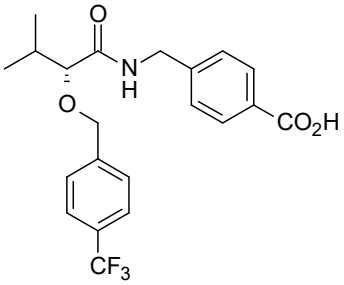


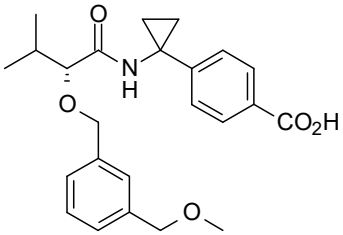


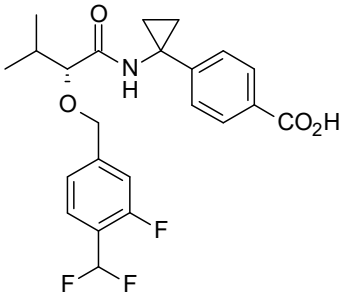


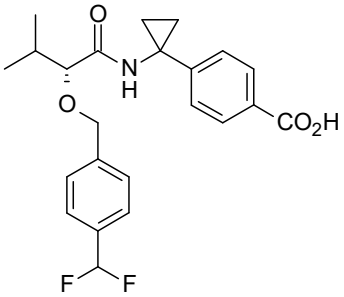


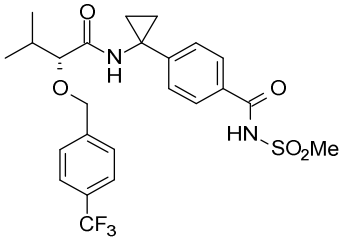


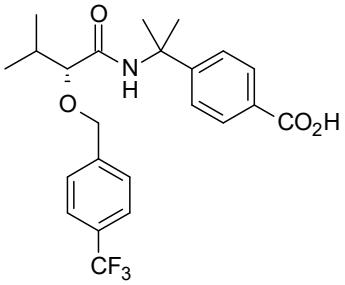


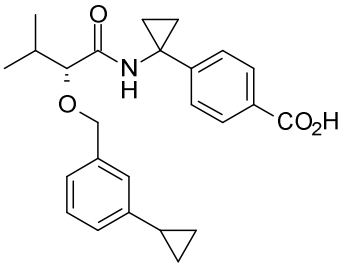


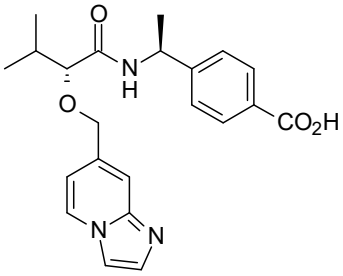


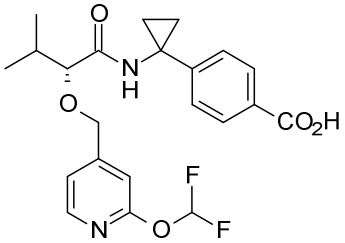


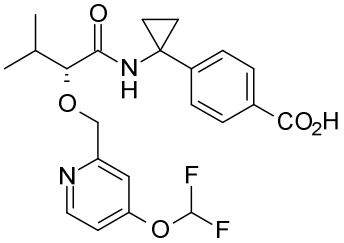


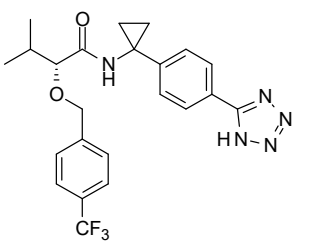


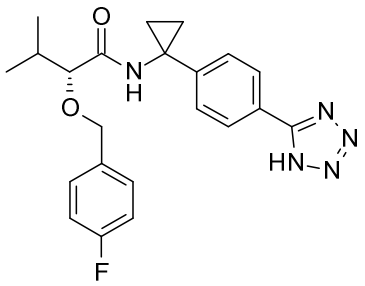


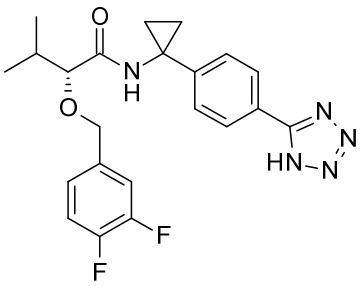


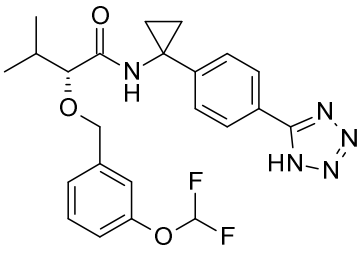


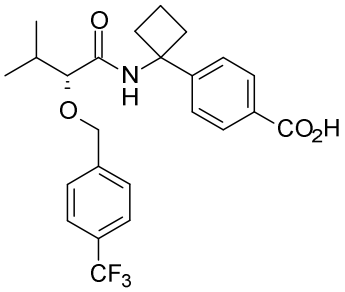


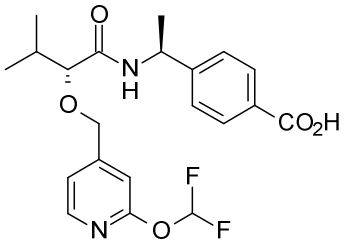


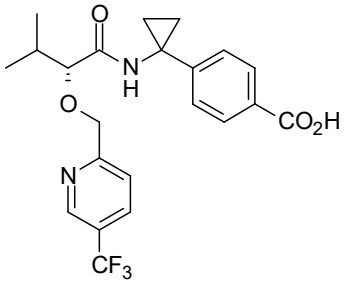


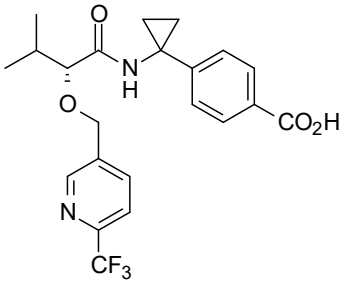


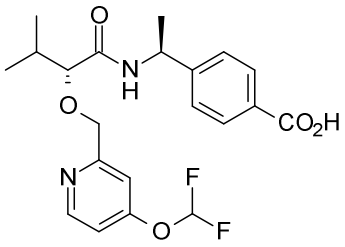


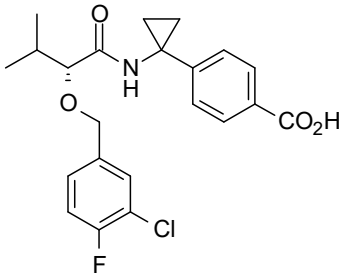


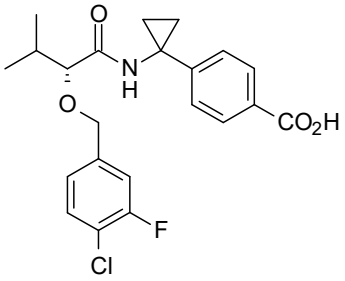


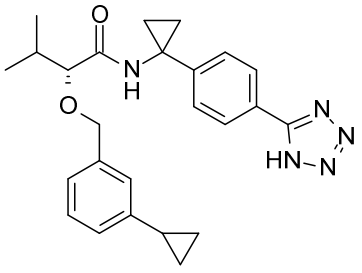


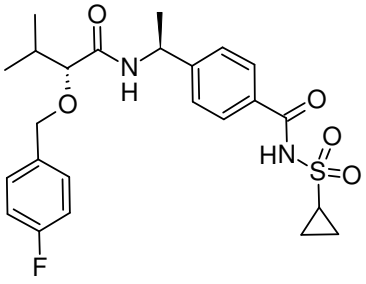


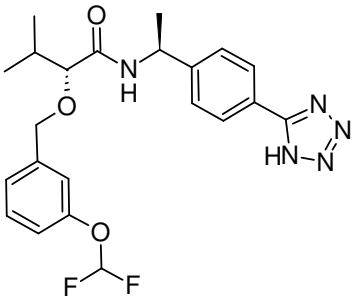


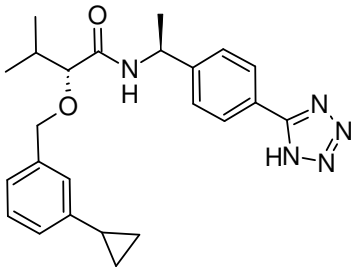


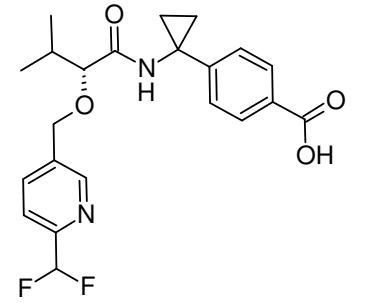


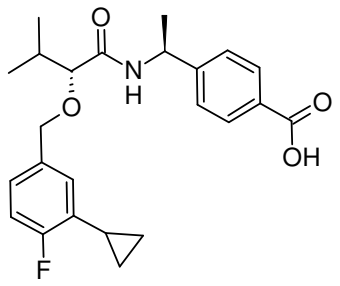


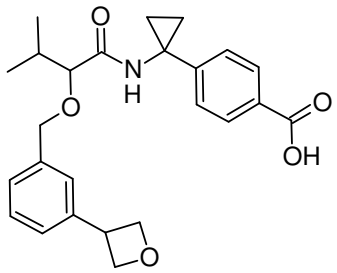


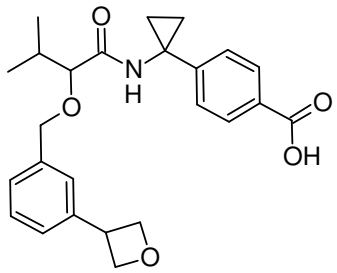


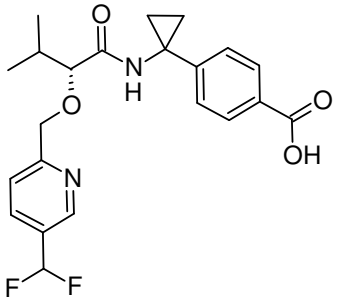


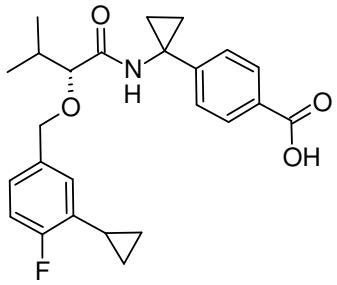


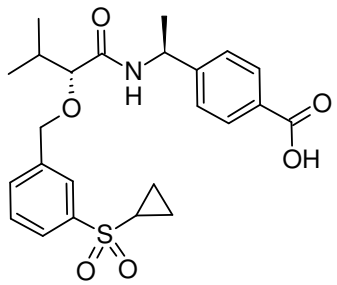


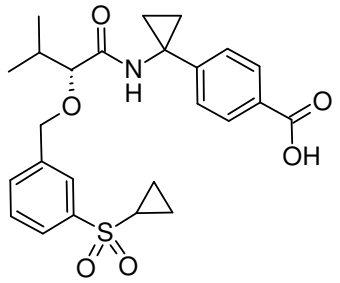


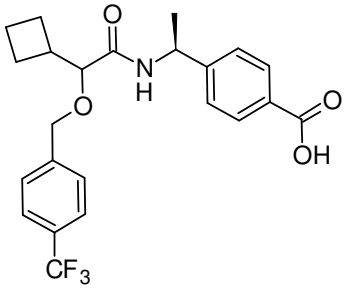


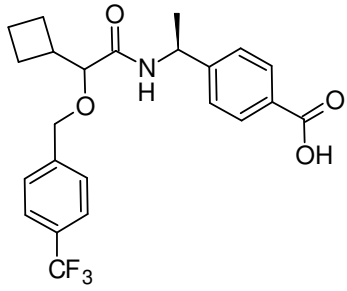


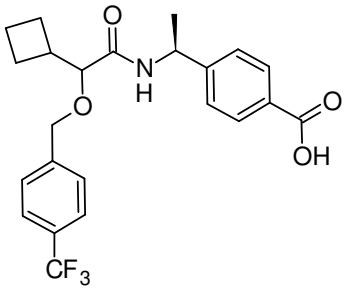


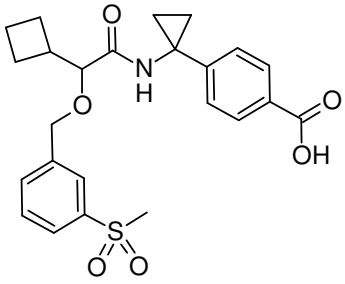


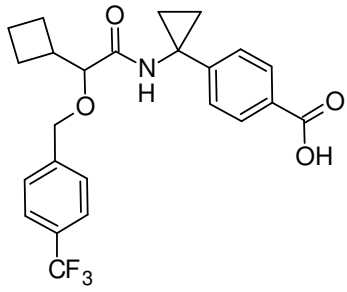


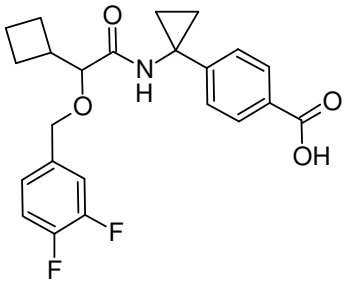


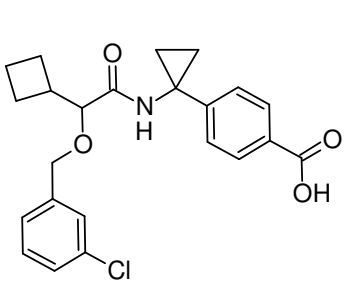


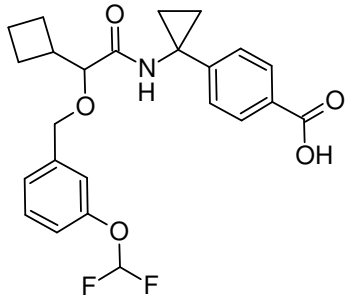


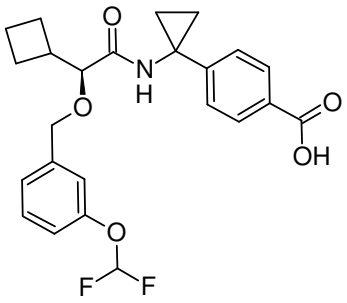
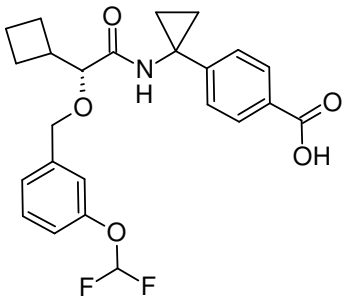










or a salt thereof.

23. The compound according to any one of claims 1 to 22 having EP4 receptor antagonist activity.

24. A pharmaceutical composition comprising a compound as defined in any one of claims 1 to 23 and a pharmaceutically acceptable excipient.

25. The compound or composition according to any one of claims 1 to 24 for use in medicine.

26. Use of the compound or composition according to any one of claims 1 to 24 in the manufacture of a medicament for the treatment of Abdominal aortic aneurysm (AAA), Ankylosing spondylitis (AS), Alzheimer's disease, Atherosclerosis, Cancer including epithelial cancers (GBD neoplasm categories of colon and rectum, lip and oral cavity, nasopharynx, other pharynx, gallbladder and biliary tract, pancreatic, non-melanoma skin, ovarian, testicular, kidney, bladder, thyroid, mesothelioma, esophageal, stomach, liver, larynx, tracheal, bronchus and lung, breast, cervical, uterine, prostate), Diabetic nephropathy, Endometriosis, Inflammatory bowel disease, Migraine, Multiple sclerosis (MS), Osteoarthritis (OA) or Rheumatoid arthritis.